

Signature Engineering Building

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LEED
Floor Plans
Elevations/Sections
Views
Exterior Perspectives
Interior Perspectives
Expansion
As Designed
Exterior Materials
Living Laboratory
Incorporated
Techniques
Virtual Tour



AE Associates

Group #17

Sonja Hinish

Charlie Miller

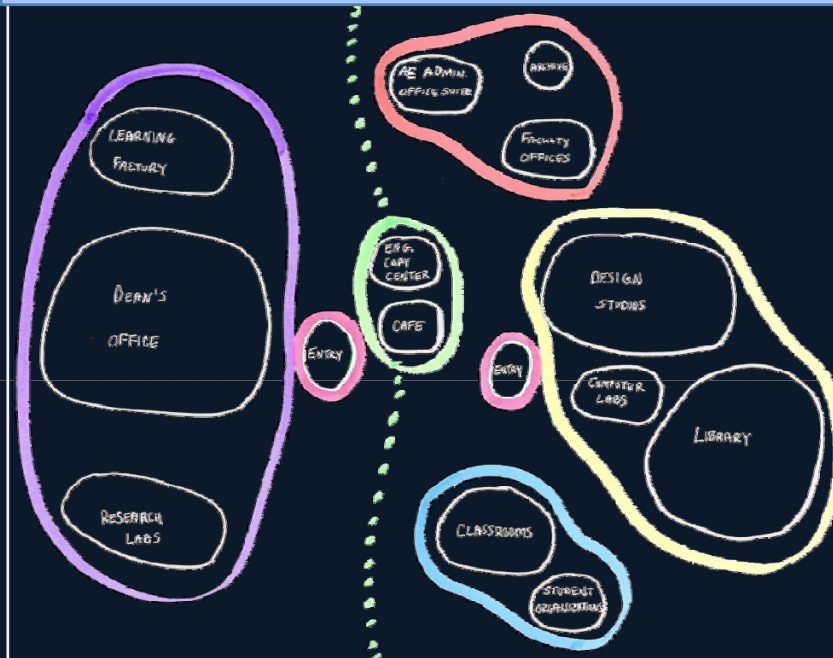
Jim Gawthrop

Lindsay Lynch

Ralph Kreider

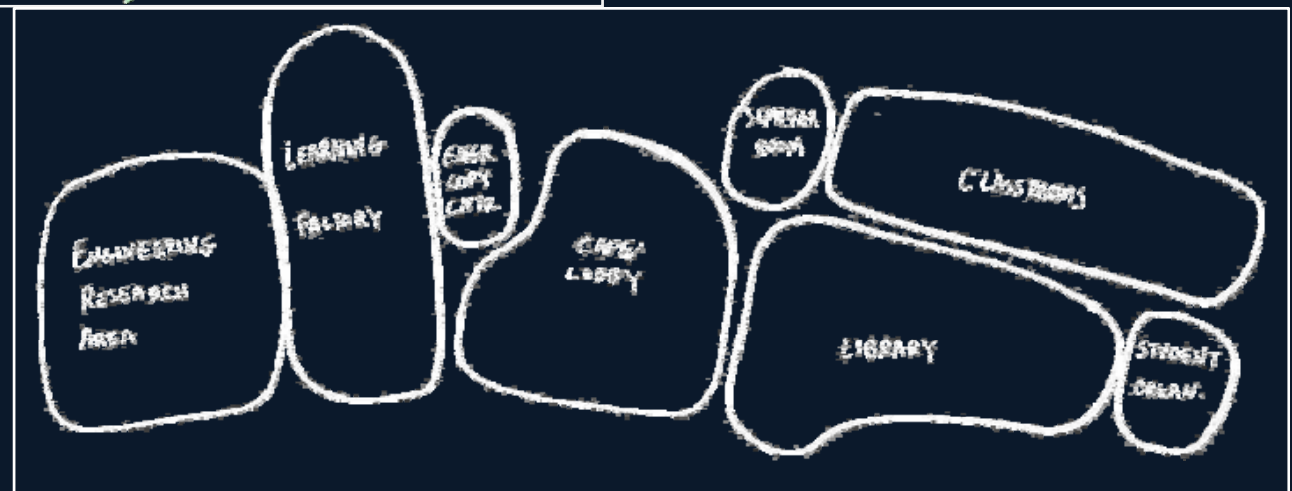
Design Development

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Bubble Diagram

Development of the Form





Preliminary Design

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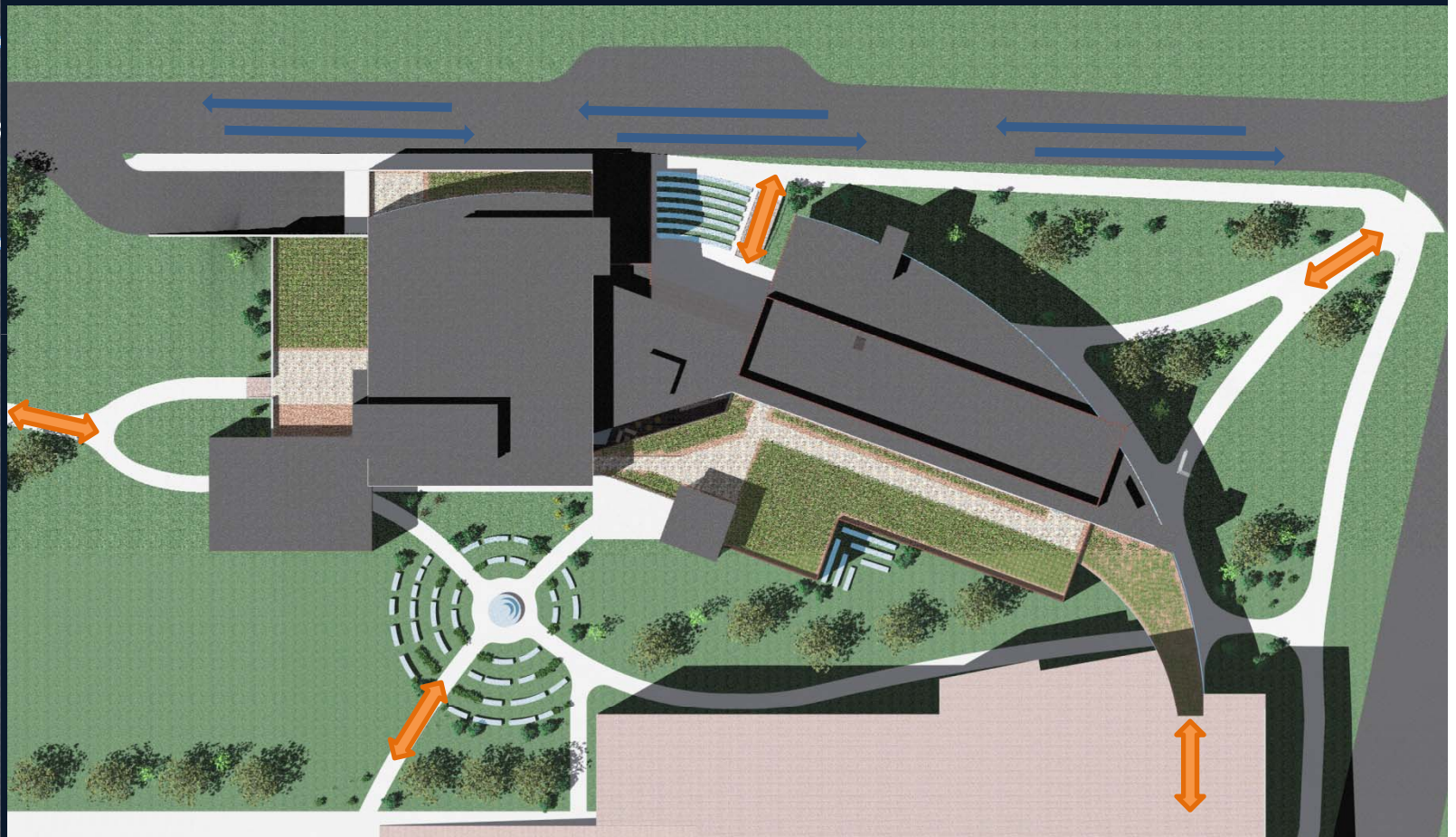
View From the Quad



View From Atherton Street

Final Design - Site Plan

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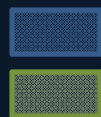
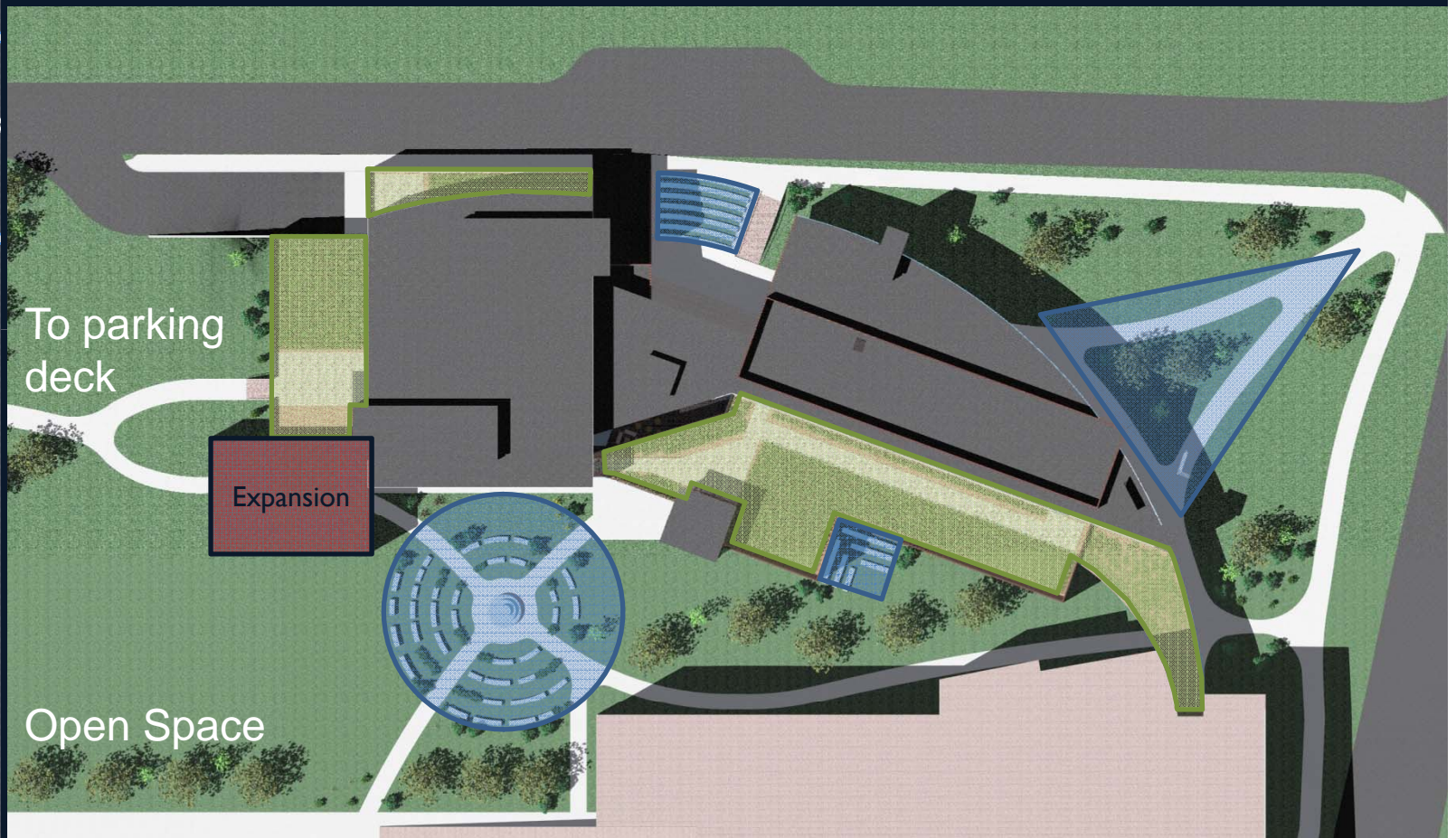


← Vehicle Flow
↔ Pedestrian Flow



Outdoor Environment

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Key Landscape Areas

Accessible Green Roof

LEED NC Analysis



- Sustainable Sites 9 points
- Water Efficiency 4 points
- Energy & Atmosphere 12 points
- Materials & Resources 7 points
- IEQ 11 points
- Innovation & Design 5 points

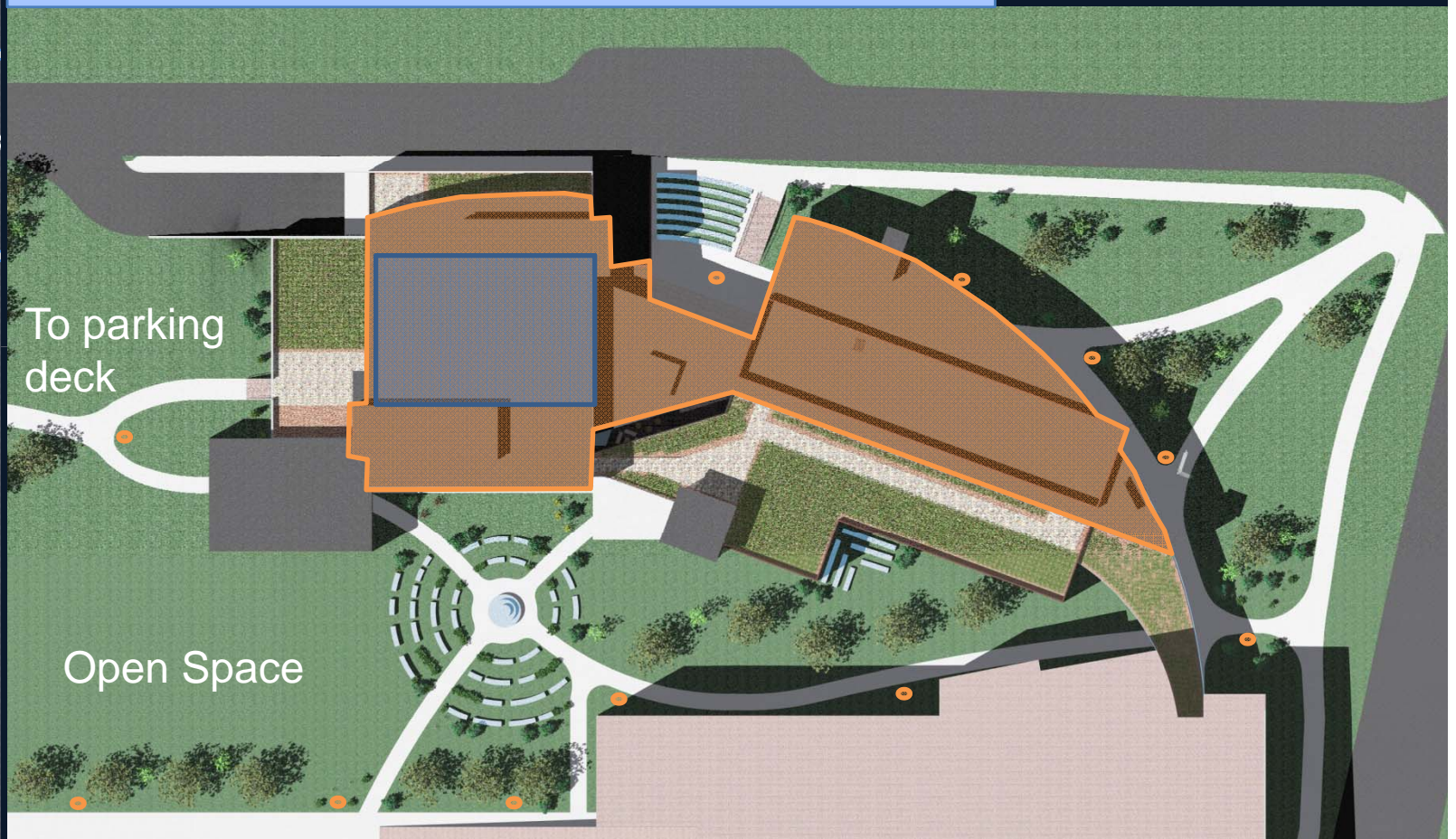
TOTAL 49 points



Gold with room for adjustment.



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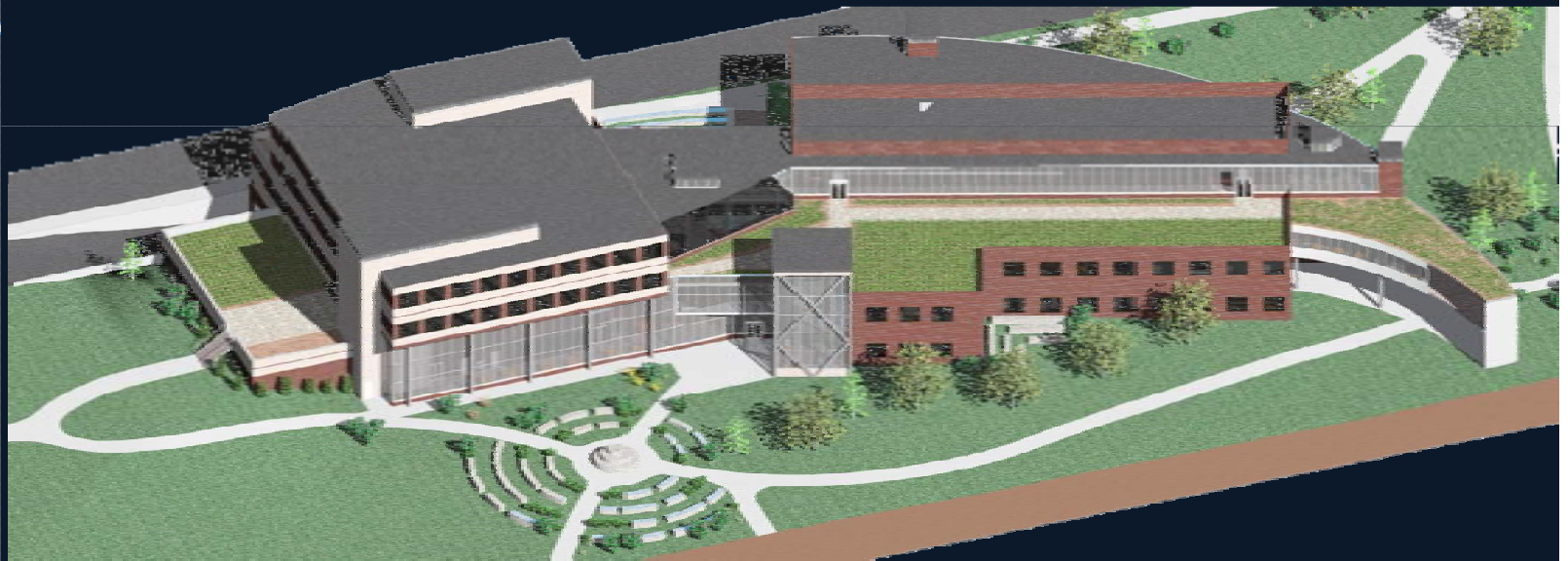


-  Water Collection Points
-  Solar Panel Array/Thermal collection Area



Floor Plans

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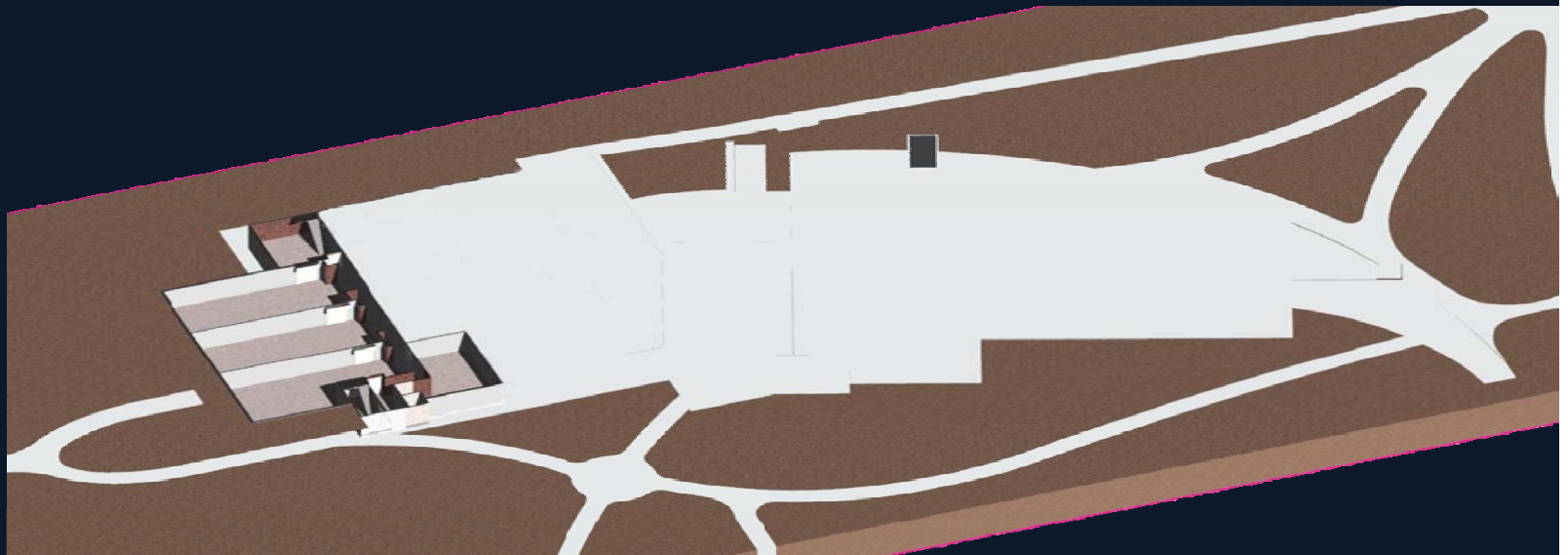


Basement Floor Plan

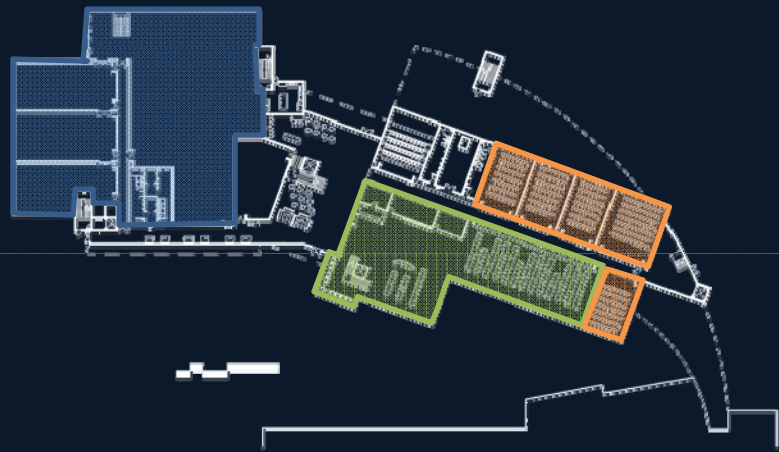




 Research Labs

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First Floor Plan

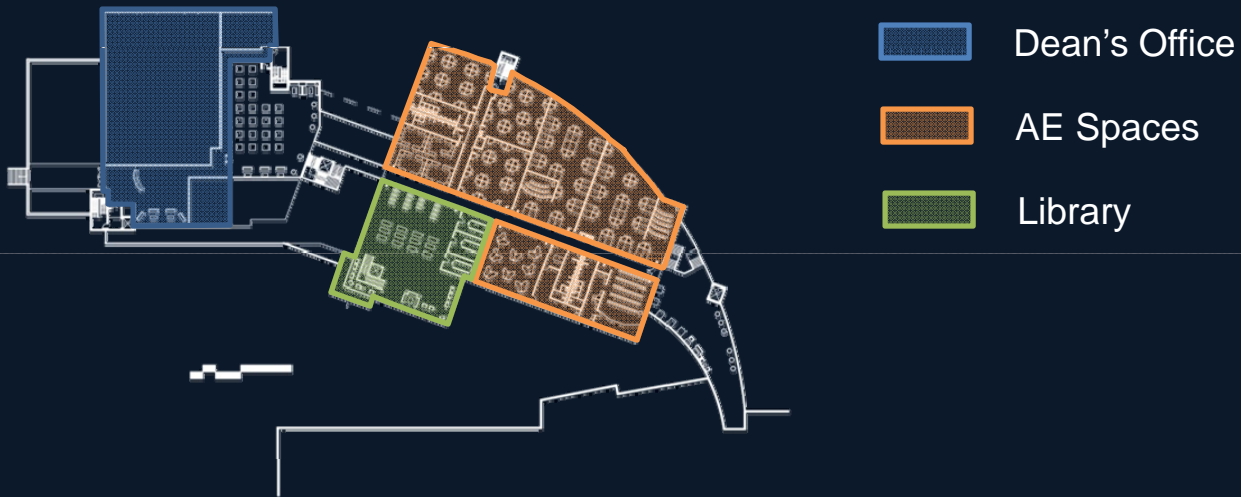


-  Research Labs and Learning Factory
-  Classrooms
-  Library



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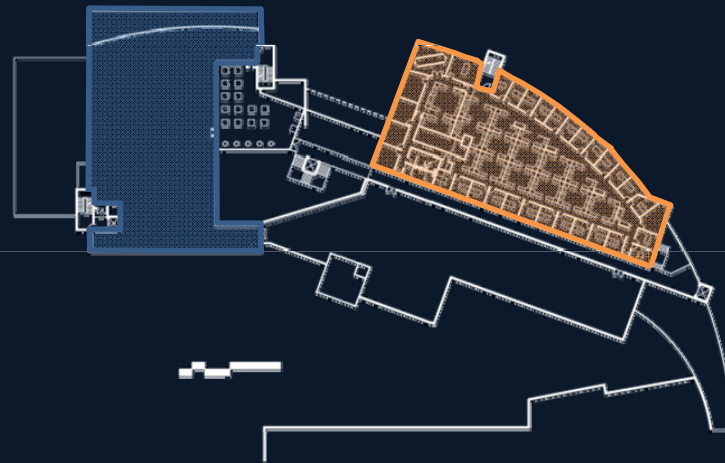
Second Floor Plan



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Third Floor Plan



Dean's Office

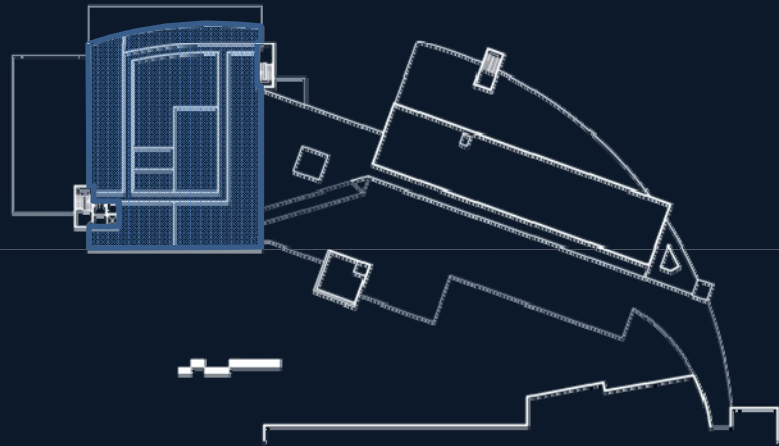


AE Faculty Offices

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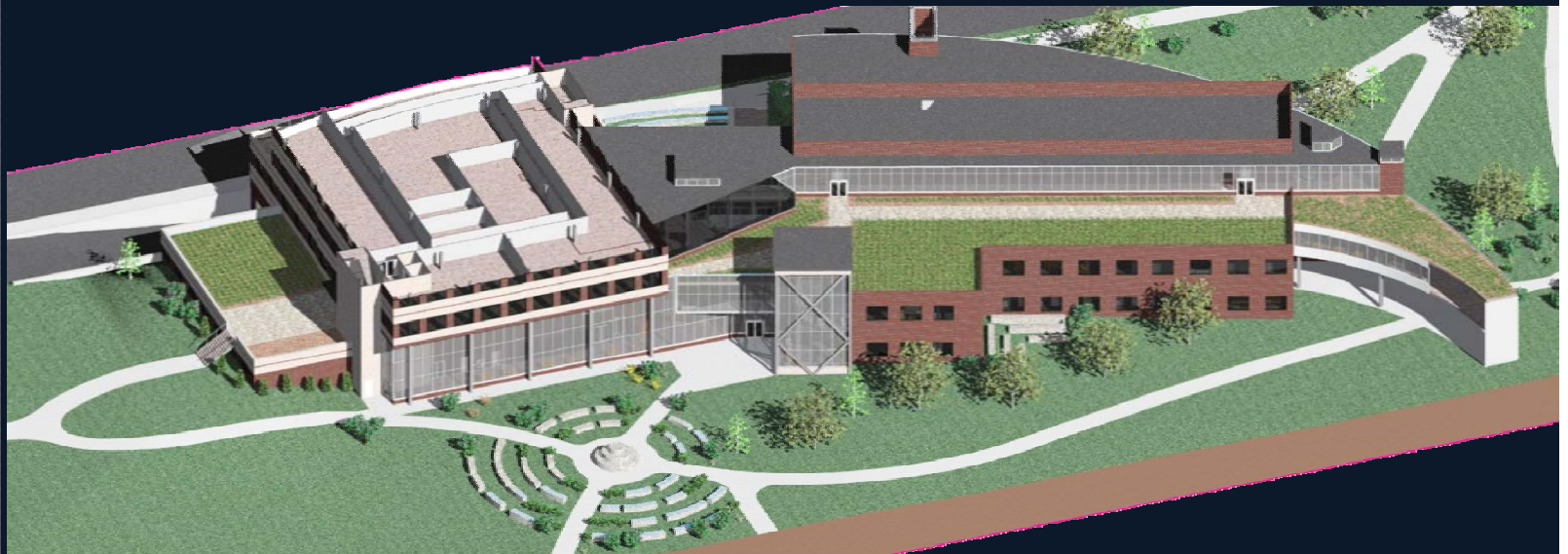


Fourth Floor Plan



Dean's Office

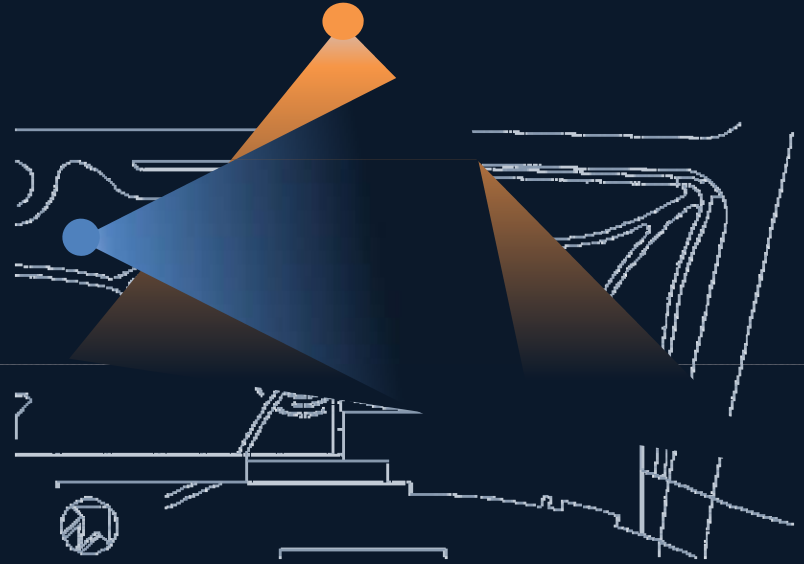
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Elevations



West Elevation



North Elevation



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Elevations

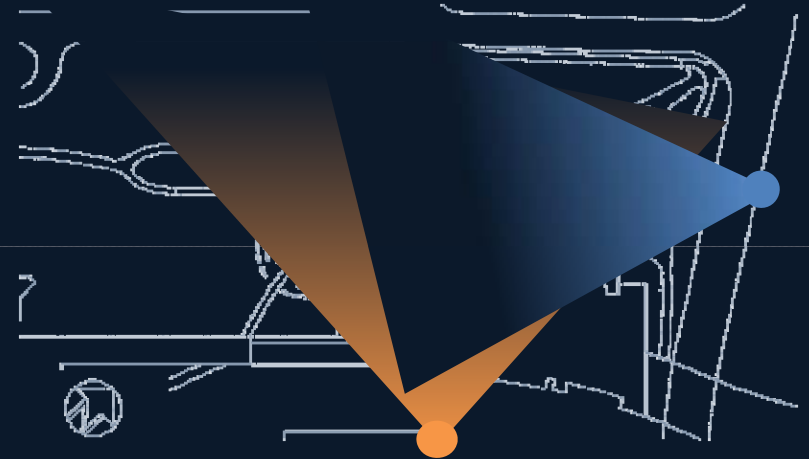
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East Elevation



South Elevation



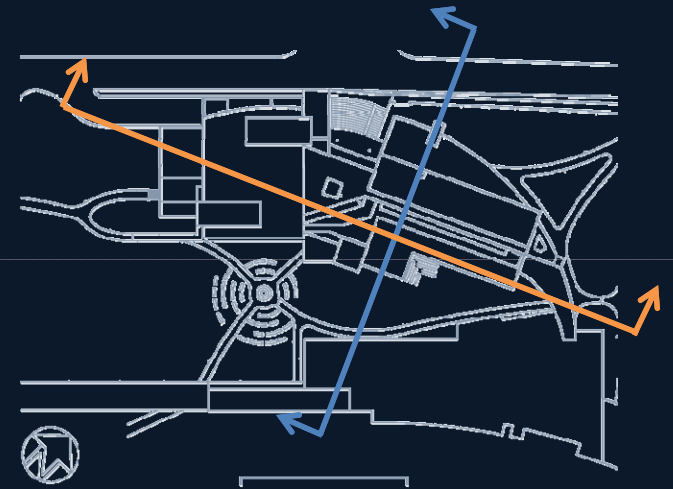


Building Sections

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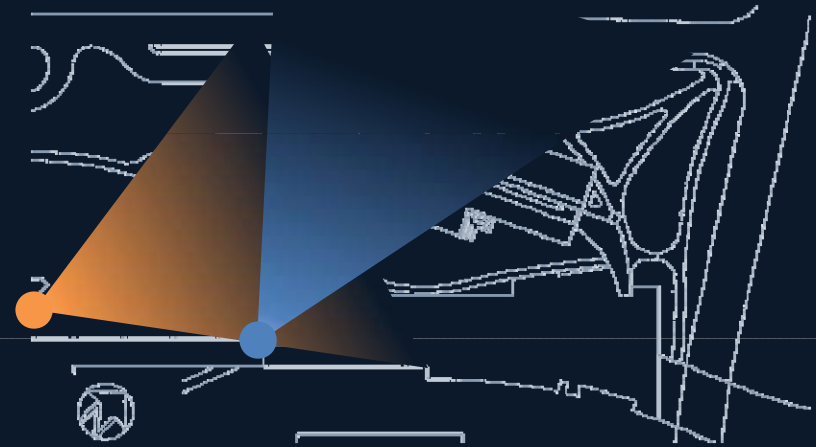
North – South Section



East – West Section

Exterior Perspectives

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Design Elements:

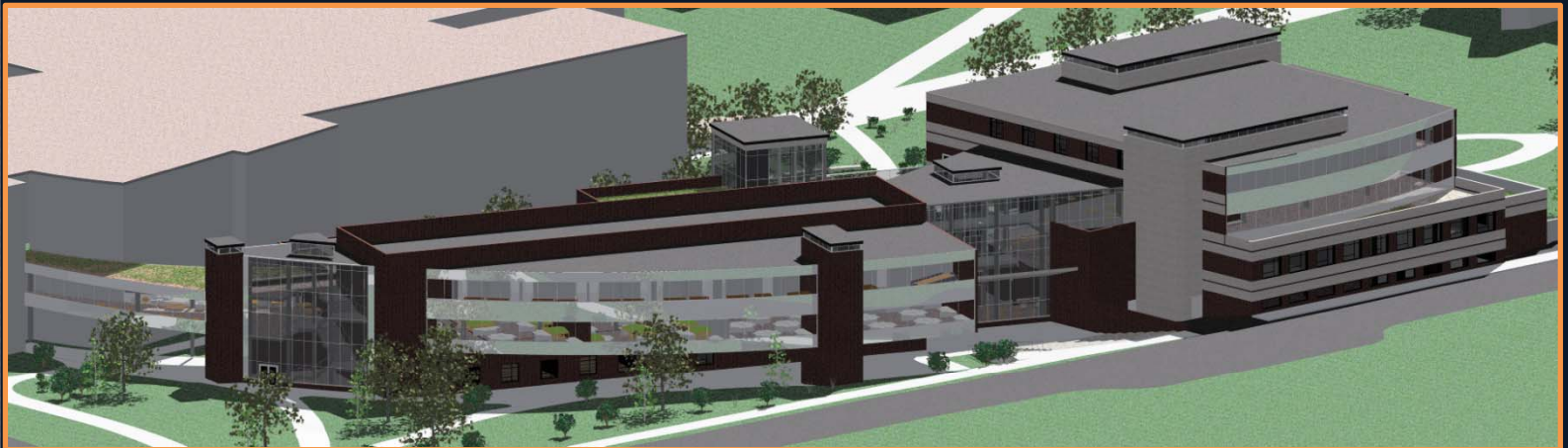
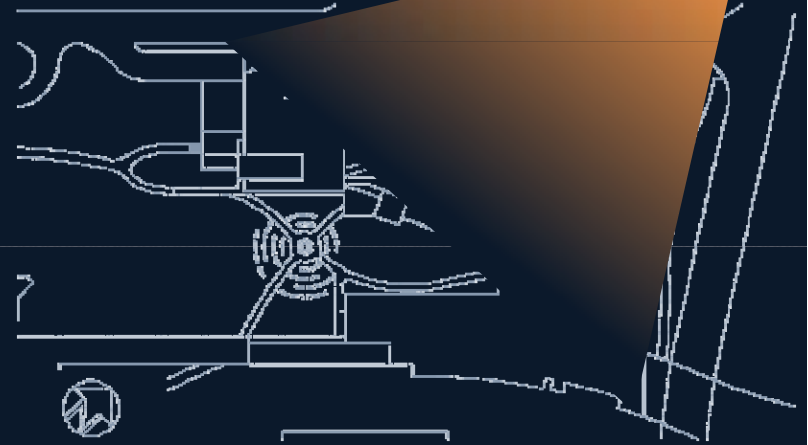
- Glass Curtain Wall
- Tower of Learning
- Horizontal Detail
- Vertical Stair Towers



Exterior Perspectives

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Aerial View From Above Atherton Street





Exterior Perspectives

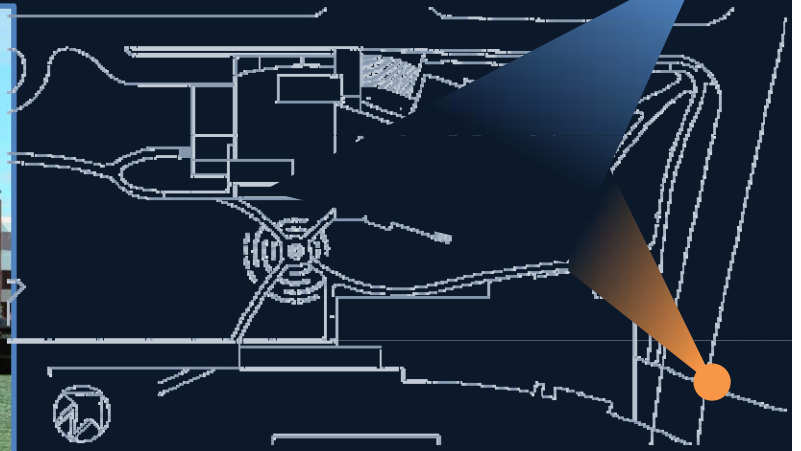
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View From the Traffic Light on
Atherton Street

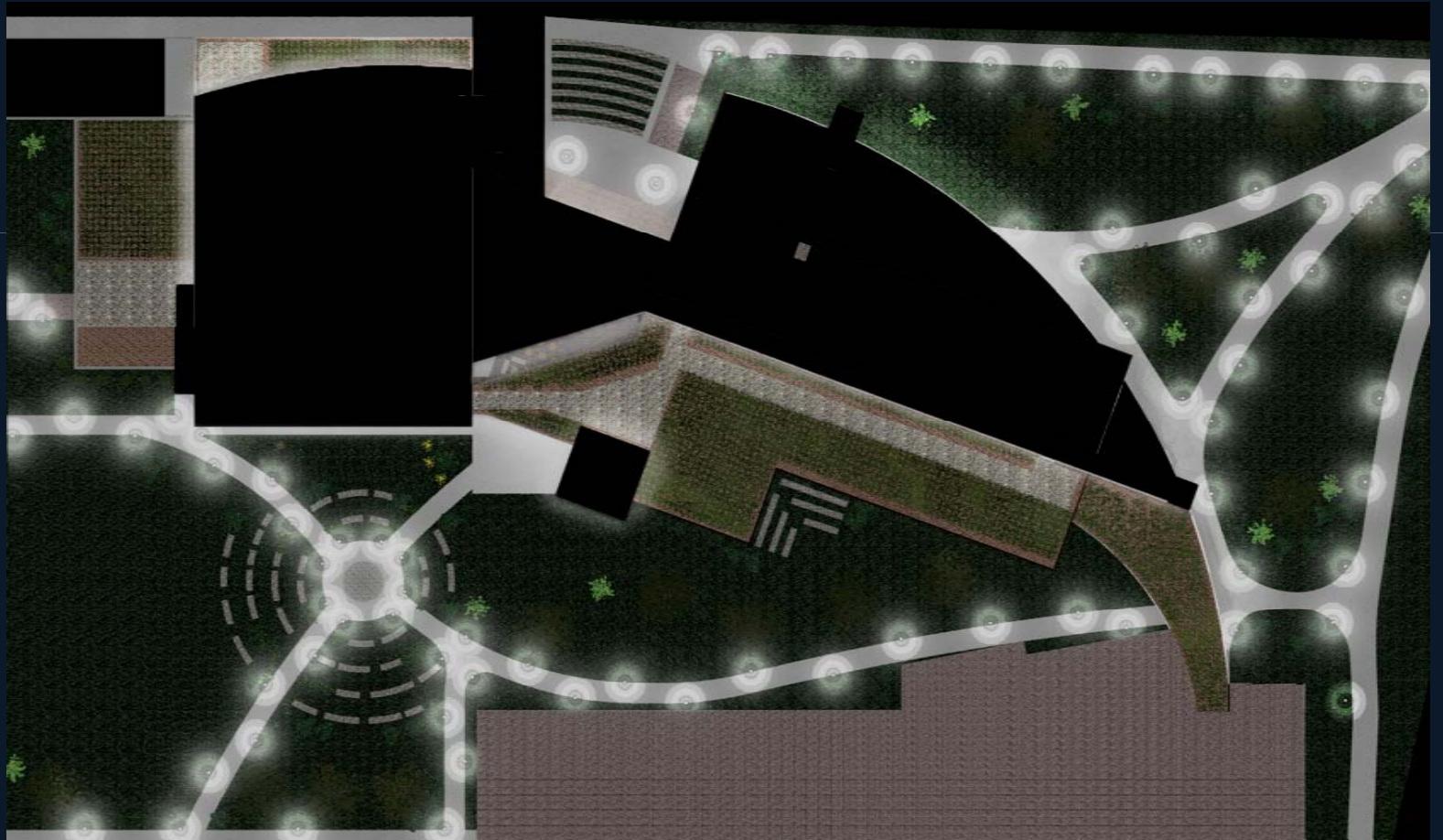


View of the East Stair Tower
From the IST Bridge



The Engineering Signature Building at Night

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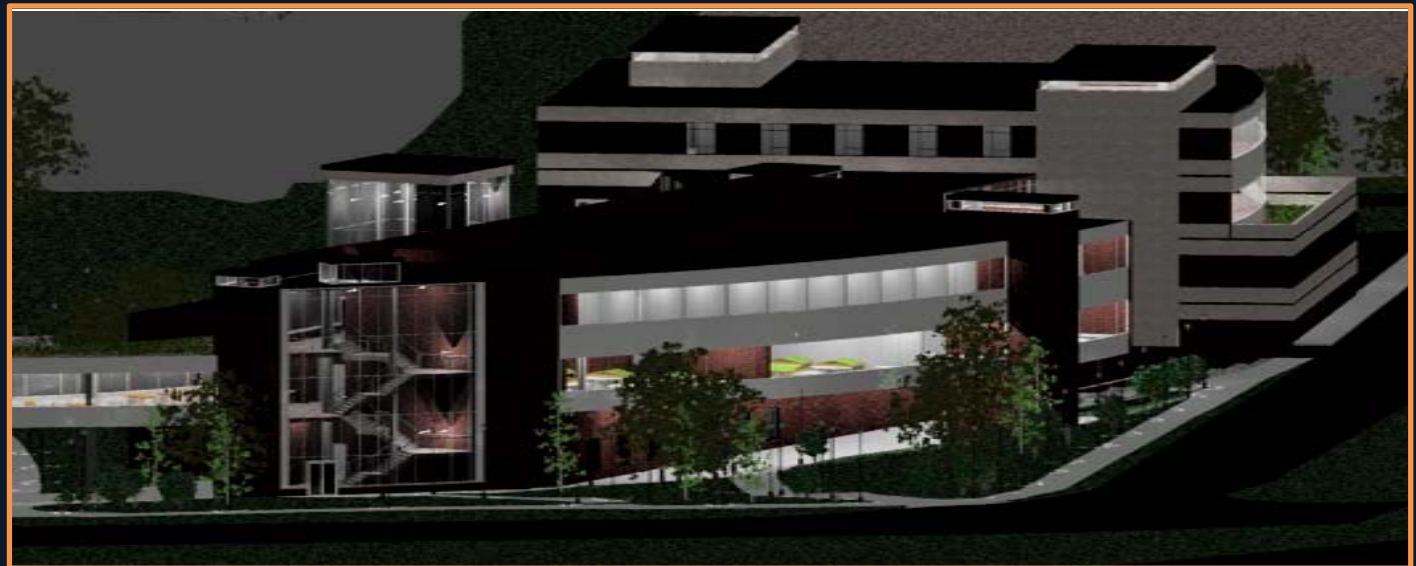


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Night Exterior Perspectives



View of the North Entrance



Aerial View From Rec Hall



Night Exterior Perspectives

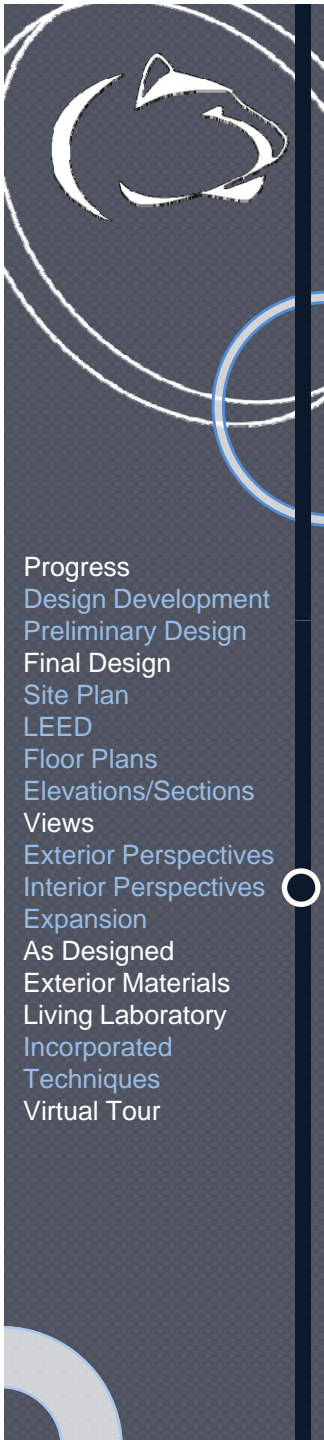
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View From
EES Building



Walking to the
Main Entrance

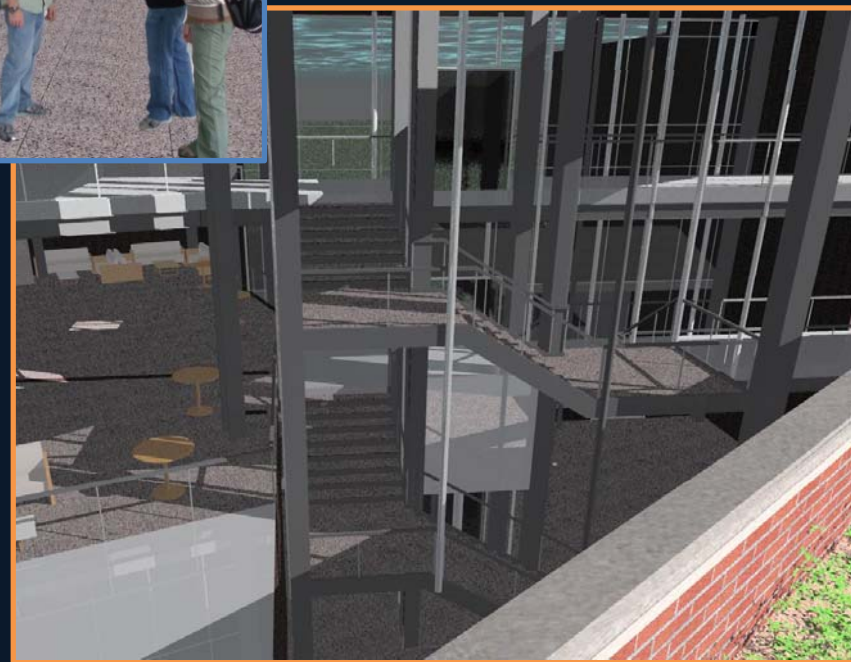
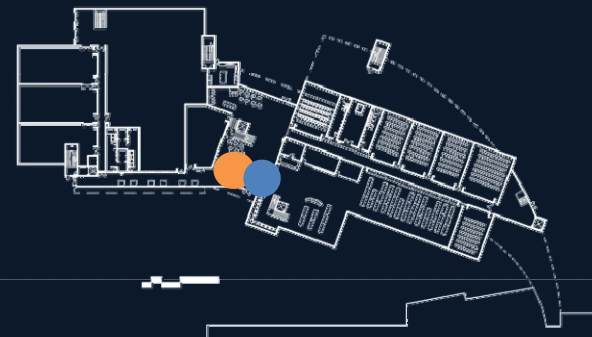


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Interior Perspectives



View of the Lobby's
Vertical Circulation



View Into the Lobby
From the South Side
Greenroof

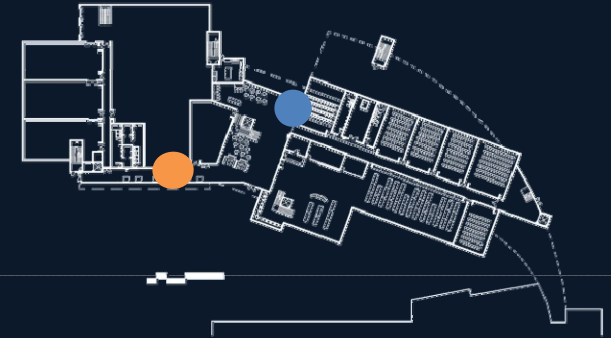


Interior Perspectives

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View of the Café and
Walkways Through
the Lobby



View Into the Lobby
From the Interior
Corridor



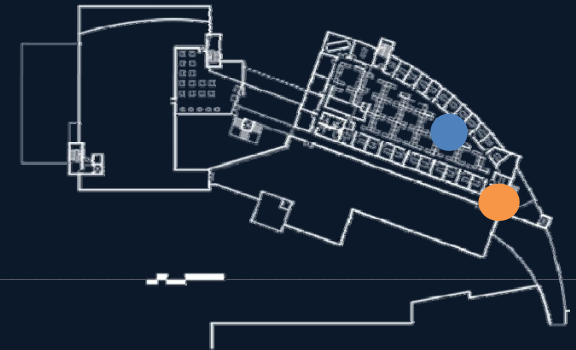


Interior Perspectives

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View Down the
Corridor in Front of
the AE Offices



View of
Studio
Space

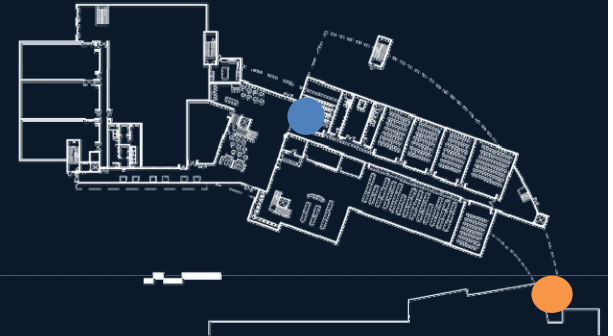


Interior Perspectives

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Seminar Room



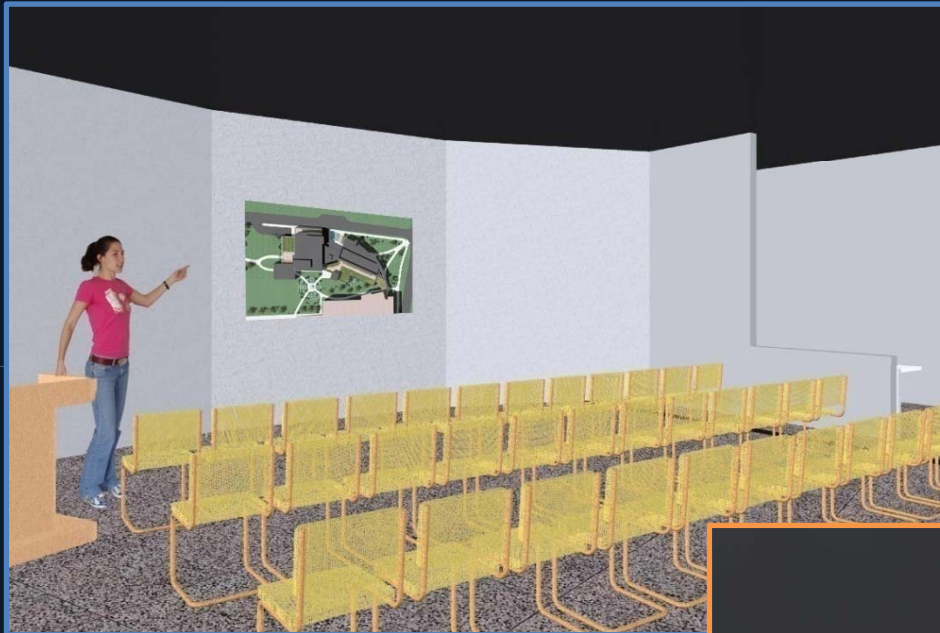
Walkway Connecting
IST to Our Building





Interior Perspectives

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View of ICON Lab

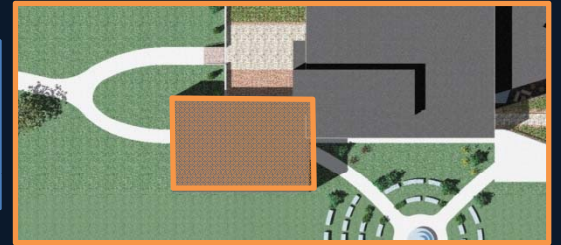


Stairs and Elevator Shaft
in Library Tower





Expansion



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'As Designed' Areas

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COE SIGNATURE BUILDING	NET FLOOR AREA	UTIL. & CIRC.	GROSS FLOOR AREA	20% EXP. GROSS	AS DESIGNED	DIFF.	DIFF.
SPACE REQUIREMENTS	AREA (SF)	CIRC. (%)	AREA (SF)	AREA (SF)	DESIGNED (SF)	(SF)	(%)
AE Department	43,165	35	58,273	8270	39,883	-3,282	-7.60%
Dean's Offices	35,000	30	45,500		37,792	2,792	7.98%
Library	14,000	15	16,100		13,660	-340	-2.43%
Learning Factory	10,000	15	11,500		9,970	-30	-0.30%
Classrooms	5,000	15	5,750		5,435	435	8.70%
General Space			0		30,616		
GRAND TOTAL	107,165	28	137,123	145,393	137,356	233	0.17%

UNIT NAME	UNIT AREA (NSF)	TOTAL AREA (NSF)	AS DESIGNED (NSF)	GENERAL SPACES	Hillways	Restrooms	Mech. AREA (NSF)
ICES	20,000		1,242	1st Floor	9,061	1,438	647
ICES Office	900		1,1845	2nd Floor	8,723	1280	
ic-Dean for Undergraduate Education	9,200		3,300	2nd Floor	6,411	379	
ic-Dean for Research	3,300		4,624	4th Floor	62		
ic-Dean for Admin and Planning	4,624		2,009	Basement	1,606		1818
ic-Dean for College Relations	2,009						
B. GENERAL AND SHARED SPACES	10,000	10000	11534				
B1- Conference Room							
B2- Storage							
B3- Lounge	general	2619		Total	25,863	3,088	1,445
B4- Reception / Waiting							30,616
C. MAIN ENGINEERING LOUNGE	5,000	5000					
TOTAL AREA (NSF)	35,000	37,792					

233
FEET OVER

0.17%
PERCENT OVER

Materials

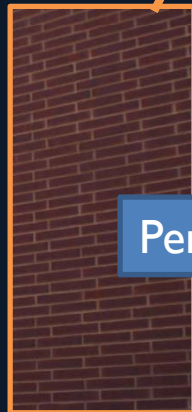
Stainless Steel
Spiders



Aluminum Panels



Penn State Brick



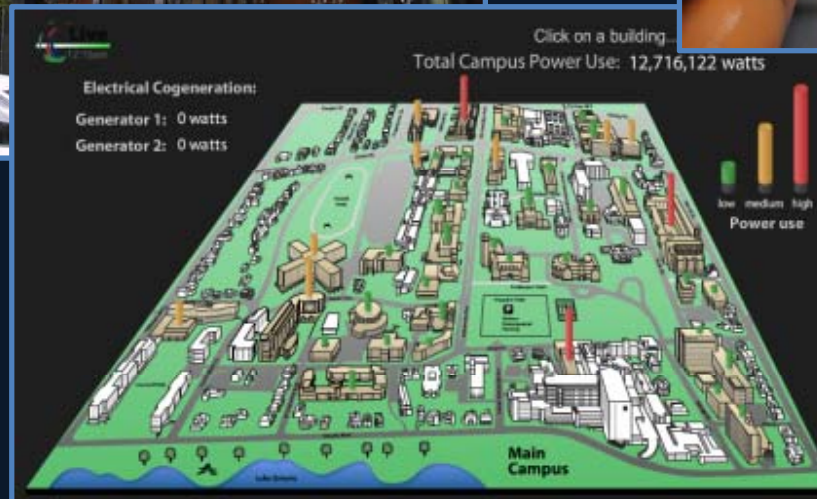
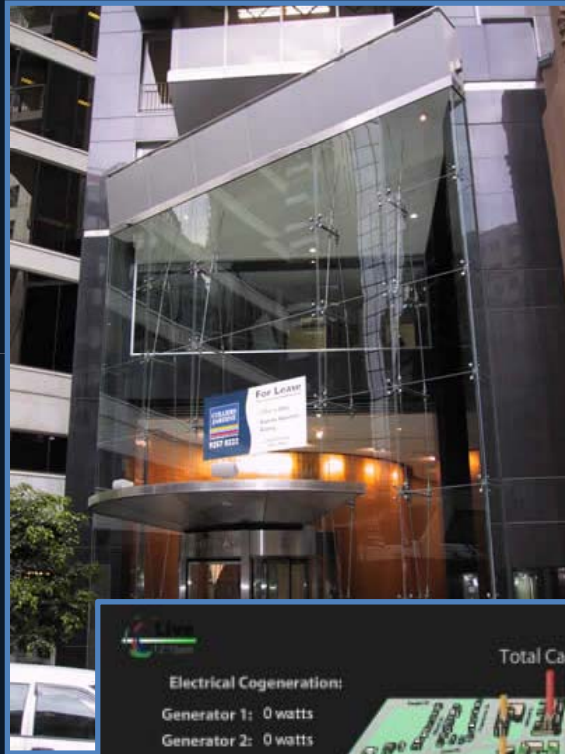
Smooth-face Block





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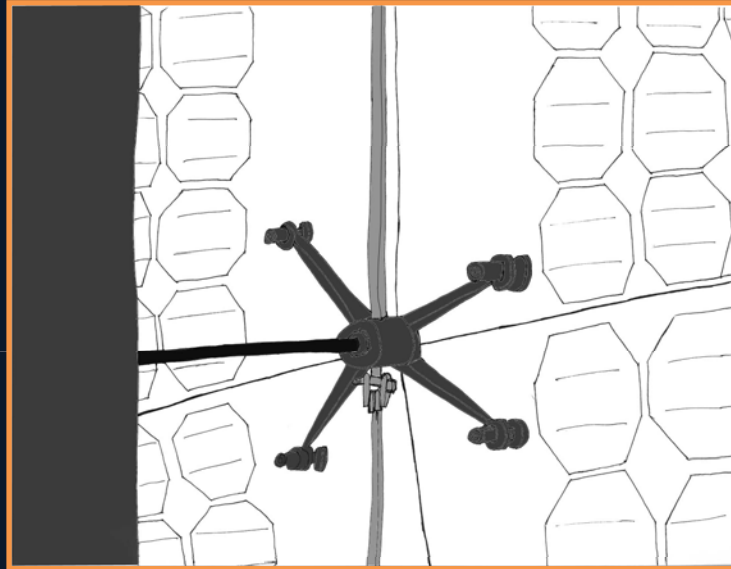


Steel Rod
Suspended Walkway



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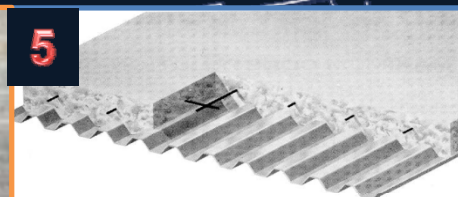
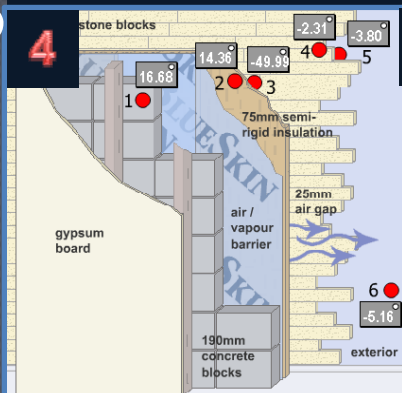
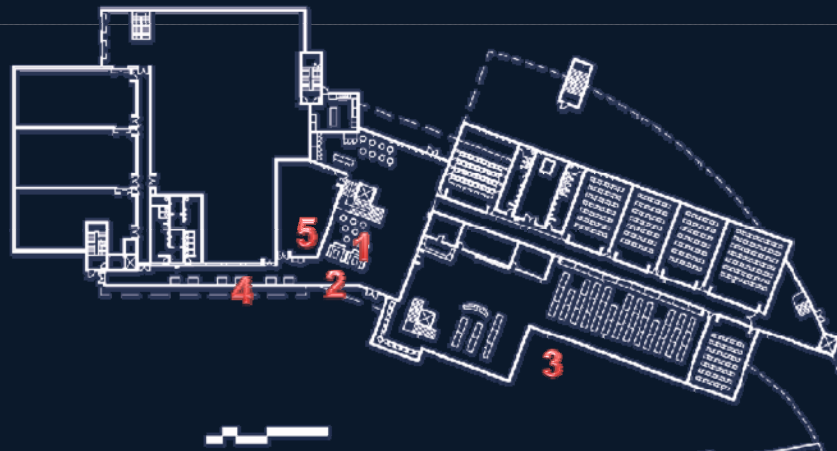
Connection to Glass
Curtain Wall



Living Laboratory

Building Systems

- Structural:
 - Wall cut-away
 - Punch out for visible structures
 - Steel teaching tree

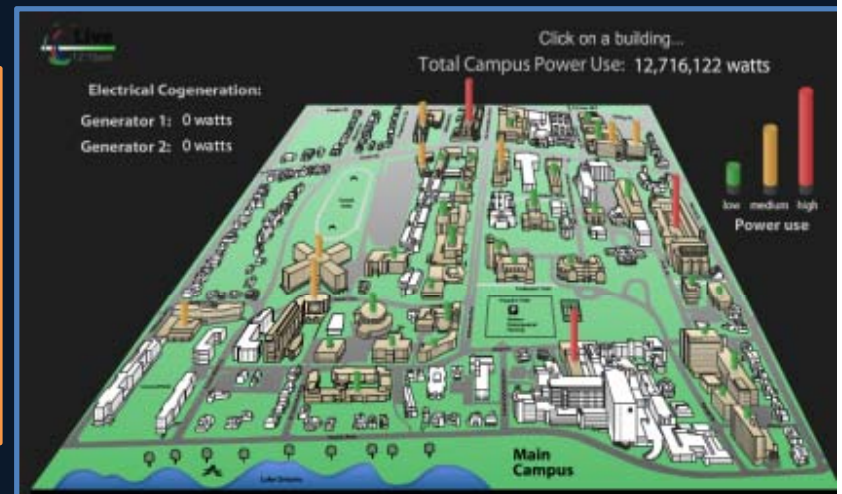


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Building Systems

- Electrical:
 - Campus Power
 - Track building outputs
 - Power Metering
 - Meters collect system data including light and power use in studios, labs, offices and hallways
 - Innovative Power Technologies
 - Wind and Solar Power Monitoring



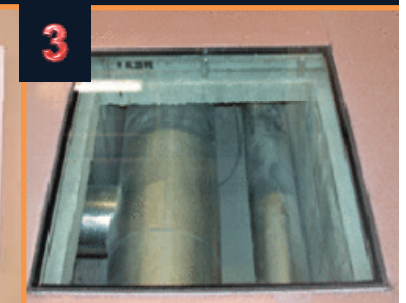
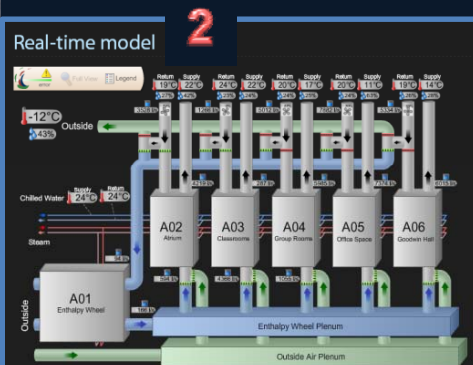
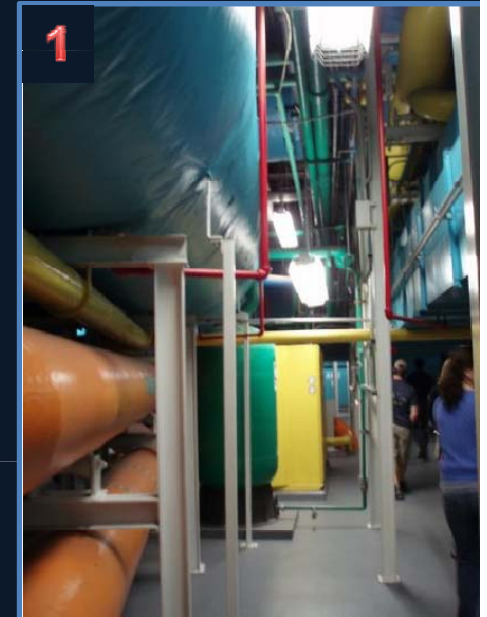
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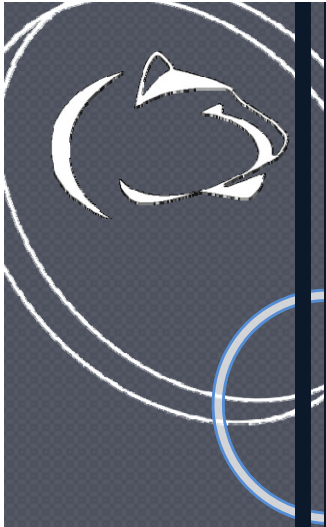
Building Systems

Mechanical:

- Visible components
- Data display



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Questions??

